

2
L93w2a
1914/15

University of Louisville

College of Arts and Sciences



FOUNDED IN 1837

Catalogue

1914-15

University of Louisville

College of Arts and Sciences

FOUNDED IN 1837

JENNE-FOWLER CO.
INCORPORATED
LOUISVILLE, KY.
1914

University Calendar

College of Arts and Sciences



Academic year begins on September 21, 1914 and closes on June 3, 1915.

FALL TERM 1914.

September 14, Monday—Meeting of Faculty of Arts and Sciences, also of Committees on Entrance and Higher Standing.

September 15-19, Tuesday to Saturday—Examination for admission, as follows:

September 15, Tuesday—Ancient Languages, History, and Civil Government

September 16, Wednesday—Modern Languages and Drawing.

September 17, Thursday—Mathematics and Physics.

September 18, Friday—English and Music.

September 19, Saturday—Chemistry, Physiology, Zoölogy, and Botany.

September 21, Monday—Registration begins.

September 28, Monday—Lectures begin.

October 12, Monday—Columbus day.

November 26, Thursday—Thanksgiving Recess begins.

November 30, Monday—Lectures resumed.

December 21, Monday—Christmas vacation begins.

January 4, 1915, Monday—Lectures resumed.

January 25, Monday—Mid-year examinations begin.

January 30, Saturday—First term closes.

SPRING TERM 1915.

February 1, Monday—Second semester begins.

February 12, Friday—Lincoln's birthday.

February 22, Monday—Washington's birthday.

April 2, Friday—Easter Holidays begin.

April 6, Tuesday—Lectures resumed.

May 13-18, Thursday to Tuesday—Examinations of the Senior Class.

May 19-29, Wednesday to Saturday—Final examinations.

May 29, Saturday—Annual meeting of Trustees.

May 29, Saturday—Business meeting of Alumni.

June 3, Thursday—Commencement.

Board of Trustees

A. Y. Ford, President

John W. Barr, Jr.

Allen R. Hite

B. Bernheim

T. L. Jefferson

W. H. Bradbury

M. L. Miller

Oscar Fenley

Marion E. Taylor

Officers of Government and Instruction

College of Arts and Sciences



JOHN L. PATTERSON, A. M., LITT. M., LL. D.,
The Dean of the College.
Professor of Greek.

ECKART VON WALTHER, S. M., LL. D.,
Registrar.
Professor of History.

RUTH EAGLETON TERRY, A. B.,
Adviser of Women.
Instructor in English.

G. L. SPILLMAN, A. M.,
Professor of Germanic Languages.

LOUIS SIFF, S. B., PH. D.,
Professor of Mathematics.

JAMES S. BLACKWELL, A. M., PH. D.,
Professor of Latin and Romance
Languages.

A. LEE EDDY, M. D.,
Professor of Biology.

JOHN P. GRANT,
Professor of Music.

CHARLES J. ROBINSON, S. B., PH. D.,
Professor of Chemistry.

C. O. ZAHNER, M. D.,
Acting Professor of Biology.

Officers of Government and Instruction

College of Arts and Sciences



WARWICK M. ANDERSON, S. B.,
Professor of Physics.

E. C. PERROW, A. M., PH. D.,
Professor of English.

MORLEY A. CALDWELL, A. M., PH. D.,
Professor of Philosophy.

JOSEPH CHANDLER, A. B., PH. D.,
Assistant Professor of Chemistry.

CHAS. O. McMAHON, A. M.,
Assistant Professor of Romance Languages.

ANDREW P. DUSTIN, A. B.,
Instructor in Latin.

EDNA DOLFINGER,
Instructor in Art.

KEITH SPERRY,
Instructor in Metal and Jewelry Work.

B. M. BRIGMAN, S. M.,
Instructor in Drawing.

W. EDWIN GLOSSOP,
Instructor in Architectural Design.

GEO. HERBERT GRAY, A. B.,
Lecturer in the History of Architecture.

ED. COX, S. B.,
Instructor in Chemistry.

Committees

The Trustees are the ultimate source of authority in all matters pertaining to the University.

Academic Council.

The Dean.

ECKART VON WALTHER. LOUIS SIFF.
JAMES S. BLACKWELL. WARWICK M. ANDERSON.

Committee on Admission and Examination.

PROFESSOR SIFF. PROFESSOR VON WALTHER.
PROFESSOR BLACKWELL.

Committee of Advisers.

PROFESSOR PERROW. PROFESSOR ANDERSON.
MISS TERRY.

Committee on Advanced Standing.

PROFESSOR VON WALTHER. PROFESSOR SIFF.
PROFESSOR CALDWELL.

Committee on Grievances.

PROFESSOR ANDERSON. PROFESSOR SPILLMAN.
PROFESSOR EDDY.

Committee on Entertainment.

MISS TERRY. PROFESSOR GRANT.
PROFESSOR CALDWELL.

Committee on Catalogues and Publications.

PROFESSOR PERROW. PROFESSOR ANDERSON.
PROFESSOR VON WALTHER.

Committee on Honorary Degrees.

THE DEAN. PROFESSOR ROBINSON.
PROFESSOR ZAHNER.

Committee on Athletics.

PROFESSOR VON WALTHER.
DR. SPALDING. PROFESSOR ANDERSON.
PROFESSOR McMAHON.

Committee on Appointments.

Representing the University.

Two members of the Faculty appointed by the Dean.

Representing the Normal School.

Two members of the Faculty appointed by the Superintendent of Public Schools.

HISTORY

OF THE

University of Louisville



The University of Louisville was founded in 1837 by a decree of the City Council, and the tract of land comprising the town block between Eighth and Ninth Streets, extending south from Chestnut, was granted to the corporation chartered by an act of the Legislature of Kentucky in 1847. The text of Section One of the University Charter follows:

"SECTION 1. Be it enacted by the General Assembly of the Commonwealth of Kentucky, That an institution of learning shall be and the same is hereby established and incorporated in the city of Louisville, and that George W. Weissinger, Garnett Duncan, Samuel S. Nicholas, Wm. E. Glover, W. S. Vernon, Isaac Everett, James Marshall, Henry Pirtle, James Guthrie, Chapman Coleman, William F. Bullock, shall be and they are hereby appointed Trustees of said University, and shall have perpetual succession; and that they, and their successors in office, shall be a body politic and corporate, in law, under the name and style of the President and Trustees of the University of Louisville; and by that name and style may sue and be sued, plead and be impleaded, defend and be defended, contract and be contracted with, in all courts of law and equity of this Commonwealth; and shall have power and authority to acquire and hold all such real and personal estate, money, goods, or chattels, as may be necessary, convenient, and proper for all or any of the departments of the University aforesaid; and by that name and style shall also have power and authority to acquire and hold real and personal estate, sufficient to yield an annual income, rent, or interest, not exceeding \$40,000 per annum; and from time to time, if by them deemed expedient, to sell and convey the same, and to re-invest or dispose of the proceeds in such manner as the interests of said University may require; and shall have and use a common seal, and the same may alter or renew at pleasure; and may pass all needful and necessary by-laws and regulations, not contrary to the constitution and laws of this Commonwealth, and may change, modify and repeal the same at pleasure, and re-enact others, from time to time, as

the interests of said institution may require. And the said President and Trustees of the said University of Louisville shall have full power and authority to establish all the departments of a University, for the promotion of every branch of science, literature, and the liberal arts; and also may establish faculties, professorships, lectureships, and tutorships, and alter or abolish the same at pleasure; and may appoint a faculty, professors, lecturers, and tutors thereto, and may remove any one or all of them at pleasure, and appoint others in their stead."

A special subsidy of \$50,000 was also allowed for the construction of suitable buildings. This enactment of the civic government speaks well for the intelligence and forethought of Louisville when it was nothing more than a village, and these facts, indicating the provision and solicitude of their grandfathers for the cultivation of higher learning and a higher type of citizenship, are worth recalling to their descendents.

Soon after the appropriation made by the City Council for a university, the College of Medicine and the College of Law were put in active operation. The College of Medicine of the University of Louisville is the second oldest medical school now in existence west of the Alleghanies. By the recent coalition of the medical colleges of Louisville, embracing the College of Medicine of the University of Louisville, organized in 1837, the Kentucky School of Medicine, 1850, the Louisville Medical College, 1869, the Hospital College of Medicine, 1873, and the Medical Department of the Kentucky University (now Transylvania University), 1898, new property, greater prestige, and wider influence were added to the old institution, thus making it one of the strongest of its class in the country, and promising for the future the maintenance of increasingly higher standards to satisfy the increasing requirements demanded by the State medical boards. Substantial additions have also been made recently to the laboratories and clinical facilities of this college.

A new hospital has just been completed by the city of Louisville at a cost of a million dollars. It has been made a teaching hospital under the advice of one of the best hospital experts in the country. The medical management of the hospital has been placed by the Mayor in the hands of the Board of Trustees of the University of Louisville. They select the staff and recommend it to the Mayor and Board of Public Safety for appointment.

The five combined colleges of medicine have graduated altogether in the past more than 20,000 alumni.

The Faculty includes about ninety surgeons and physicians. The College of Medicine has again been placed in Class A by the Council on Medical Education of the American Medical Association.

The Law Department of the University of Louisville, is, with one exception, the oldest law school in the South. It has graduated about 1,400 students, many of whom are practicing their profession or filling offices of public trust in most of the States of the Union. Recently the corps of instructors has been increased, and the mode of teaching has been supplemented by the best modern methods employed at Harvard, Columbia, and other universities of prominence.

The College of Arts and Sciences was added to the University of Louisville in 1907, to carry out the founders' original design of establishing departments for the promotion of science, literature, and the liberal arts. This College is at present supported by an appropriation from the city of Louisville of \$25,000 a year.

The Trustees have recently passed, with reference to the development of the University, a resolution of which the following is a part:

"That the Executive Committee of the board is authorized, empowered and directed to undertake the accomplishment of the following things, as speedily as may be:

"(a) The acquisition by donation of an appropriate tract of land within the city limits of the city of Louisville, or, at all events, adjacent thereto, containing not less than thirty acres, for the use of the College of Arts and Sciences, with the provision, that in the event the Board of Trustees should determine to do so, buildings for the use of the College of Medicine and of the College of Law, and any other college or school, which may be erected thereon.

"(b) The donation of not less than five hundred thousand (\$500,000) dollars, to be used for the construction of the necessary buildings on the lands that may be acquired for the use of the College of Arts and Sciences, and for adapting the lands themselves to the use designed.

"(c) The passage of a joint resolution by the General Council of the city of Louisville declaring it to be a fixed municipal policy to appropriate annually, from the public funds of the city, for the general use of the university, to be expended by the Board of Trustees, not less than fifty thousand (\$50,000) dollars for the fiscal year ending August 1, 1914; not less than seventy-five

thousand (\$75,000) dollars for the fiscal year ending August 1, 1915; and not less than one hundred thousand (\$100,000) dollars for every year thereafter; and pledging the faith of the city government to make all such appropriations."

The College of Arts and Sciences of the University of Louisville has an adequate equipment and a faculty, competent to give instruction in courses which lead to an honorable Bachelor's or Master's degree. The doctorate will not be granted at present. The requirements for admission to the college conform to an approved standard, and credit will not be given for work done elsewhere than in a college of good standing, nor will credit be given for work done *in absentia*.

The rapidly increasing congestion of population in our American cities makes, every year, more and more imperative the services of social workers, men and women trained and ready to devote themselves to the service of its swarming centers. Every year there is more and more need of specialists in hygiene, bacteriology, chemistry, education, sociology, philanthropy, engineering, finance, and administration. The source of supply may be found in a complete public educational system embracing, as does the public educational system of the city of Louisville, the graded schools, the high schools, and the municipal university.

It is also coming to be clearly recognized that the most effective and most practical professional training is that which is founded upon a thorough college education. The most economical way of providing such a preliminary education is to furnish opportunities of combining the last one or two years' study of candidates for the baccalaureate degree in Arts or Sciences with work which shall be preparatory to their later professional study; and this is best done in a university such as the University of Louisville which is at once a professional school and an institution of liberal culture.

During the years since its foundation the University of Louisville has grown steadily in the extent and efficiency of its service.

Co-Educational

The College of Art and Sciences is Co-Educational.

Fees

The tuition fee in the College of Arts and Sciences is \$100 per session, half payable at the beginning of each semester. Teachers engaged in the work of their profession, and sons and daughters of clergymen are admitted at half the regular tuition fee. Theological students and all members of the clergy are admitted without tuition fee. A laboratory fee of \$5 per term is charged in each laboratory, unless otherwise specified. A fee of \$20 is charged for graduation. All special students (see page 13) are charged at the rate of \$25 a course for the college year. All candidates for the Master's degree will be charged a uniform fee of \$25 for each course.

Expenses

BOARD AND ROOMS.

Moderate: Furnished rooms may be engaged by two students in a room at \$1 to \$2 per week for each student. Meals, \$2.50 to \$4 per week. Private board, including fuel and light, at \$3 to \$5 per week.

The Y. M. C. A. of Louisville has a splendidly equipped new building erected at a cost of about \$400,000 within a block of the College. Rooms may be engaged here at a rental of \$2 to \$4 per week. There is a good restaurant in connection with the Y. M. C. A. where meals may be secured at club rates.

Liberal: Those who desire more luxurious accommodations can easily secure them in the city.

Books and stationery cost a student in the College of Arts and Sciences about \$20 per year; expenses for pay lectures, athletic games, and college organizations may be whatever the student chooses to make them.

Students desiring to add to their resources may do so by finding remunerative employment for a part of their time; but this privilege is granted only by consent of the authorities of the University.

Requirements for Admission

A student is not eligible for admission (examinations) until he has completed the full course of a good high school, or its equivalent. Reckoning one year's work of five recitations a week, for nine calendar months as a unit, a student must be able to show proper credentials for sixteen units of such work before he

becomes a candidate for admission. Of the sixteen units required, fourteen are prescribed and two are elective. The certificates of the high schools of Louisville, New Albany, Jeffersonville, and others of acceptable rank will admit the holder without examination, but the faculty reserves the right to prescribe to students admitted on certificate such courses during their first year, even in addition to the regular courses, as the Committee on Admission thinks advisable.

1. Prescribed subjects, fourteen units, as follows:

1. Mathematics, three years, three units.
2. English Language and Literature, three years, three units.
3. Six units, distributed between two foreign languages. Three of these units must be offered in Latin or Greek by all candidates in Arts.
4. Science, one year, one unit.
5. History, one year, one unit.

2. Elective subjects, two units.

The two units of elective subjects may be chosen from the list which follows, either in equivalent subjects not mentioned in the prescribed list, or in advanced work in the prescribed elementary branches:

English.	History.	Chemistry.
Greek.	Mathematics.	Physiology.
Latin.	Music.	Botany.
German.	Harmony.	Zoölogy.
French.	Counterpoint.	Civil Government.
Spanish.	Physics.	Drawing.
Hebrew.		

The University does not offer any courses in studies preparatory for college. There are many good secondary schools in Louisville, and three good public high schools, in any of which students may receive adequate preparation. Classes *for beginners* in the ancient and modern languages are organized in the college, however, for the benefit of those who may wish *after matriculation* to enter upon the study of these languages, *but these courses do not count for honors.*

Certificates. Students entering from other institutions must have certificates of honorable dismissal, and the amount of work done must be properly certified, both as to the time and subjects. If the admission requirements of the University are satisfied, and if the school from which the certificate is offered, belongs to the class accredited by the University, the candidate will be admitted without examination.

Conditioned Students. In some instances students who have not entirely completed their preparatory work may be admitted on condition in not more than two subjects, but they must remove the conditions by making up the deficiencies. All admission conditions must be removed as far as possible before the student enters upon the work of the second year. No student candidate for a degree will be admitted to the senior class with conditions.

Special Students. Students of proper age who desire work in any department of the College of Arts and Sciences may be admitted as special students upon the recommendation of the head of the department in which work is sought. Special students may become candidates for a degree by satisfying the requirements for admission and by paying the regular tuition fee. (See under Fees, page 11.)

Medical Students. In the case of medical students who are applying for the pre-medical year only fourteen units are required for entrance.

Of these, nine are prescribed:

1. English, reading and practice, two units.
2. Mathematics, Algebra to quadratics, one unit.
Mathematics, Plane Geometry, one unit.
3. Latin, Grammar and composition, one unit.
Latin, Caesar, one unit.
4. German, or French (Elementary), two units.
5. History, American and Civil Government, one unit.

The remaining five elective units may be chosen from the list on page 12, or from equivalent subjects taught in a good high school. No student will be admitted to the pre-medical work with a condition; except that conditions may be allowed amounting to not more than one-half of the requirement in Physics and one-half of the requirement in a modern language until 1917. All such conditions shall of course be removed before registration for the second year.

The preliminary college year shall include courses in Physics, Chemistry, Biology, and German or French, each course in the Sciences to embrace at least eight semester hours of didactic and laboratory work. A student may satisfy the requirement in Physics, however, by presenting one unit of high school Physics and completing a half year of college physics, which continues and does not duplicate the work done in the high school.

A student may satisfy the requirement in French or German by presenting two units of high school work in either language, and completing a half year of college work in that language which continues and does not duplicate the work of the high school, or by presenting three high school units of regular work in French or German.

Appointments of Graduates

Through the co-operation of the University
and the Louisville Normal School

Students who expect to teach are requested to give their names to the chairman of the Committee on Appointments not later than the end of the second year's work. This committee is a joint committee from the University of Louisville and the Louisville Normal School. On the recommendation of said committee the student wishing to teach shall take for the third year certain courses in the University of Louisville and certain courses in the Louisville Normal School. The University work is to be arranged in the afternoon so as to allow the candidate to attend the Louisville Normal School in the morning. The candidate under this arrangement is to complete besides the three years' work in the University of Louisville, the work of the second half of the first year of the Louisville Normal School.

In the fourth year the candidate shall attend the Louisville Normal School and there complete the second year of the Louisville Normal School work.

At the end of the four years, the University of Louisville, with the concurrence of the Louisville Normal School, shall grant the candidate the degree of Bachelor of Science in Education; such degree being accepted by the Louisville Board of Education as entitling the recipient to the same privileges accorded to the holder of a diploma from the Louisville Normal School.

When the candidates have been graduated, the committee will carefully grade each with reference to (1) physical health, (2) personality, and (3) scholarship.

No candidate will be recommended by the Committee who has not attained the Grade of B in each of the courses assigned.

Graduates of the Louisville Normal School who have served a specified time as teachers, may enter the College of Arts and Sciences of the University of Louisville, and receive corresponding credit for the work done in the Normal School.

Advanced Standing. To entitle a student to advanced standing (1) a letter of honorable dismissal from the last institution attended, (2) a certificate of work in a college the curriculum and entrance requirements of which are equal to those of the University, and (3) an examination covering courses previously taken, are all necessary. In special cases examination may not be insisted on.

All credit for advanced standing will be given to students entering from other colleges conditionally upon the quality of their work during the first semester's residence in the University.

Degrees

The College of Arts and Sciences offers undergraduate and graduate courses; the undergraduate courses lead to the degree of Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Education.

The prescribed studies leading to the Bachelor's degree in Arts are the same as those leading to the Bachelor's degree in Science. Although the two degrees require almost the same quantity of work they differ in the character of training offered. The undergraduate classical work necessary to attain the degree of B. A. usually requires for completion four years of fifteen hours a week; the undergraduate work for the degree of B. S. usually requires four years of eighteen hours a week, including laboratory periods. The work necessary to attain the Bachelor's degree in Education is described on page 14.

All first and second year students are required to attend the regular Assembly Exercises on Wednesdays at twelve o'clock M.

No student will be allowed to carry more than the prescribed number of hours except upon the special consent of the faculty, and under no circumstances more than four subjects for credit the first year.

All candidates for degrees must pass a satisfactory examination in *every* subject studied, regardless of the number of units to their credit, except that the Committee of Advisers may allow the student to discontinue such work the discontinuance of which may seem to them advisable.

The graduate degrees, classical and scientific require as a minimum one year of work, equivalent to twelve hours a week from the bachelor's standing, and consist of the degrees of Master of Arts and Master of Science.

The first two years' work in the undergraduate courses is prescribed and the remainder is elective, subject to the direction of the Committee of Advisers, who will arrange the choice in such a way as to insure unity of purpose in the training; that is, estimating the requirements for the baccalaureate degree at eighteen units, nine units are prescribed and the others are elective. The required units are: Mathematics, 2; English, 2; Foreign Language, 2; History, 1; Science, 1, and Philosophy, 1. Enough of the fundamental work for the degree is prescribed to preserve its unity, while sufficient choice is permitted to enable students to gratify individual tastes.

The following rules govern the granting of degrees:

1. No credit is given for work done *in absentia*.
2. In order to be recommended for the degree of Bachelor of Arts or Bachelor of Science, a candidate must have passed in studies amounting to eighteen courses. He must, moreover, have attained a grade not under B in at least one-third of all the work done by him in the University of Louisville in satisfaction of the requirements for the degree.
3. All candidates must be in good standing in every department in which credits are desired.
4. The Master's degree is conferred only upon such candidates as have attained the Bachelor's degree in this University, or in some other institution of equal grade.
5. Candidates for a degree must spend at least the last year of their study in residence at the University.
6. No candidate is admitted to graduate courses without the consent of the Committee on Advanced Standing.
7. No course counted for a baccalaureate or professional degree will be counted toward a Master's degree.
8. For the Master's degree a major and at least one minor subject, comprising graduate work equivalent to twelve hours a week for at least one year, must be chosen by the advice and

consent of the Committee on Advanced Standing; and a thesis, approved by the head of the department in which the major subject is pursued, must be submitted not later than one month before Commencement. At least one year's work in both French and German is prerequisite for the Master's degree, and if an elementary course in them is taken while working for the Master's degree, it will not count as either a major or a minor.

Combined Academic and Medical Degrees

A student who has satisfied the requirements for admission to the College of Arts and Sciences of the University of Louisville and who has made ten units consisting of Mathematics, 2; English, 2; French or German, 1; History, 1; Chemistry, 1; Biology, 1; Physics, 1; and Philosophy 1, required for this baccalaureate degree, and has studied at least one year in residence in the College of Arts and Sciences, may enter upon his professional studies in the College of Medicine of this University. Upon the satisfactory completion of his full four years' work in that department he shall receive his baccalaureate degree in Science from the College of Arts and Sciences.

Scholarships

Certain scholarships are offered to each of the following schools:

Louisville Male High School.
Louisville Manual Training High School.
Louisville Girls' High School.
St. Xavier's College.
New Albany High School.
Jeffersonville High School.
Presentation Academy.
St. Catherine's Academy.
Holy Rosary Academy.

NOTE.—Applications by other schools will be received at the office.

Prizes

A gold medal is offered each year by Bishop Charles E. Woodcock to the student who has attained the highest standing in scholarship and who possesses the qualifications considered by the faculty essential to the recipient of this high honor. The winner of this medal will be chosen by the decision of the members of the faculty under whom the candidates recite, and by the vote of the entire faculty. The medal will not be awarded to the same student more than once.

The Woodcock Medalists are:
Miss Helen McClure Hodges, 1909-10.
Miss Leonora Johnston, 1910-11.
Mr. Julian Bradbury, 1910-11.
Miss Lois McCaleb, 1911-12.
Miss Frieda Weygold, 1912-13.

Dramatics

The Dramatic Club, which was organized during the session of 1911-12, has become an efficient and well supported organization. The membership now consists of forty students of the University. The Club was organized for the purpose of encouraging a healthy interest in the best drama and of giving opportunity for the development of the dramatic talent in the University. The program for each year includes several smaller plays to be given at intervals during the fall and spring semesters and one larger play to be given at the close of the year. The smaller plays insure for every member an opportunity to engage in some form of dramatic work, and the larger play gives to the student of exceptional ability an opportunity for more difficult work. During the first year of its organization the Club presented three plays. During the session of 1912-13 two plays were presented; the first of these productions was given a second time by request; the second play was one given for three performances at Macauley's Theater.

During the session of 1913-14 two plays were enacted, the second of these being given at Macauley's Theater. Mr. Dudley Oscar Wareing is the Director in Dramatics for the University.

Athletics

At the present time the student body with the hearty cooperation of the Faculty and the Trustees, support a football team, a track team, and basketball teams for men and women respectively. All these teams receive careful and efficient instruction from coaches employed for that purpose. For the football season of 1914 the grounds of the Louisville Baseball Club have been secured, thus insuring ample accommodations for the crowds that attend college games of football. Arrangements will also be made for the use of the Y. M. C. A. by members of the basket ball team.

Other Associations

The University also supports a German Society, a Current Events Club, a Glee Club, and a Debating Society.

Studies in which Examinations are Held for Admission

College of Arts and Sciences



LATIN.

1. Tuell and Fowler, *Latin Lessons* completed, or the equivalent.
2. Kelsey, *Caesar*, four books, and Latin exercises based on them. An adequate amount of Eutropius, Tibullus, or Propertius may be substituted for one book of Cæsar.
3. Kelsey, *Cicero*, four orations and appropriate composition.
4. Frieze, *Vergil's Æneid*, four books, with prosody. For two books, Kesley, *Ovid*, one thousand lines, may be substituted.

GREEK.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course of five exercises a weeks, extending through at least three school years.

(a) The translation of four books of Xenophon's *Anabasis* and the first three books of Homer's *Iliad*. (The passages set for translation must be rendered into simple and idiomatic English.)

(b) A thorough examination on a prescribed portion of Xenophon (about thirty pages), directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language; the test to consist, in part, of writing simple Attic prose, involving the use of such words, constructions, and idioms only as occur in the portion of Xenophon prescribed.

The portion of Xenophon prescribed for this examination is the first book of the *Anabasis*, chapters I-VIII.

ENGLISH.

The candidate's preparation in English should be such as is furnished by a good high school following the recommendations of the Conference on Uniform Entrance Requirements. The entrance examination will in general conform to these recommendations and will be based upon the books therein specified for reading and study, of which the most important are listed below.

The examination will be a test of the candidate's elementary knowledge of (a) the English Language, and (b) the general course of English Literature since Shakspeare and (c) of his ability to write English clearly and accurately, with due observance of spelling and punctuation. The candidate should therefore be familiar with the grammar of fundamental English constructions and be able to analyze into their constituent elements sentences of reasonable difficulty. He should possess a vocabulary sufficiently wide to understand the books prescribed for reading, and to explain clearly those forms of expression found in the books prescribed for study, which are unintelligible as Modern English.

He should have a general conception of the development of English Literature, both in prose and poetry, since Shakspeare's time; and should be reasonably familiar with the subject-matter of the books prescribed for reading, and be able to give a coherent analysis of the form and structure of those prescribed for study.

He should be able to write clear and simple English, accurately phrased, correctly spelled, and properly punctuated; and should know the principles of paragraph structure and be able to employ the simple forms of composition, especially those of letter and theme writing.

STUDY.

Shakspeare: *Macbeth*; Milton: *L'Allegro*; *II Penseroso*; *Comus*. Either Burke's *Speech on Conciliation with America* or both Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*. Either Macaulay's *Life of Johnson* or Carlyle's *Essay on Burns*.

READING.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from which at least ten units¹ are to be selected, two from each group:

I. *The Old Testament*, comprising at least the chief narrative episodes in *Genesis*, *Exodus*, *Joshua*, *Judges*, *Samuel*, *Kings*, and *Daniel*, together with the books of *Ruth* and *Esther*. The *Odyssey*, with the omission, if desired, of Books, I, II, III, IV, V, XV, XVI, XVII. The *Iliad* with the omission, if desired, of Books XI, XIII,

¹Each unit is set off by periods.

XIV, XV, XVII, XXI. Vergil's *Æneid*. The *Odyssey*, *Iliad*, and *Æneid* should be read in English translations of recognized literary excellence.

For any unit of Group I a unit from any other group may be substituted.

II. *Merchant of Venice*. *Midsummer Night's Dream*. *As You Like It*. *Twelfth Night*. *Henry the Fifth*. *Julius Cæsar*.

III Defoe: *Robinson Crusoe*, Part I. Goldsmith: *Vicar of Wakefield*. Either Scott's *Ivanhoe* or *Quentin Durward*. Hawthorne: *House of the Seven Gables*. Either Dickens's *David Copperfield* or *Tale of Two Cities*. Thackeray: *Henry Esmond*. Mrs. Gaskell: *Cranford*. George Eliot: *Silas Marner*. Stevenson: *Treasure Island*.

IV. Bunyan: *Pilgrim's Progress*, Part I. *The Sir Roger de Coverley Papers* in the *Spectator*. Franklin: *Autobiography* (condensed). Irving: *Sketch Book*. Macaulay: *Essays on Lord Clive and Warren Hastings*. Thackeray: *English Humorists*. Selections from Lincoln, including at least the two *Inaugurals*, the *Speeches in Independence Hall* and at *Gettysburg*, the *Last Public Address*, and *Letter to Horace Greeley*, along with a brief memoir or estimate. Parkman: *Oregon Trail*. Either Thoreau's *Walden* or Huxley's *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*. Stevenson: *Inland Voyage and Travels with a Donkey*.

V. Palgrave: *Golden Treasury* (First Series), Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns. Gray's *Elegy in a Country Churchyard* and Goldsmith's *Deserted Village*. Coleridge's *Ancient Mariner* and Lowell's *Vision of Sir Launfal*. Scott: *Lady of the Lake*. Byron: *Childe Harold*, Canto IV, and *The Prisoner of Chillon*. Palgrave: *Golden Treasury* (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley. Poe's *Raven*, Longfellow's *Courtship of Miles Standish*, and Whittier's *Snow-Bound*. Macaulay's *Lays of Ancient Rome* and Arnold's *Sohrab and Rustum*. Tennyson: *Gareth and Lynette*; *Lancelot and Elaine*; and *The Passing of Arthur*. Browning: *Cavalier Tunes*; *The Lost Leader*; *How they Brought the Good News from Ghent to Aix*; *Home Thoughts from Abroad*; *Home Thoughts from the Sea*; *Incident of the French Camp*; *Hervé Riel*; *Pheidippides*; *My Last Duchess*; *Up at a Villa—Down in the City*.

GERMAN.

Students offering German for admission must be able to pass an examination on the classification and declension of German nouns and adjectives (strong, weak, and mixed); conjugate strong, weak, and mixed verbs; separable and inseparable verbs; know the common prepositions and the cases they govern; and the comparison of adjectives and adverbs; the three word-orders and principal rules of syntax; must have read about six hundred pages of prose and poetry; and must be able to write from dictation and converse in German on such dictation.

A German Grammar, such as Thomas' or Becker's completed, together with about six hundred pages of German prose with conversation based upon it, cover the required work.

FRENCH.

Students offering French for admission must have mastered the irregular verbs and be able to write a synopsis of regular or irregular verbs, active and passive voices; must be able to write French from dictation and ask and answer easy questions on the dictation; must have read about six hundred pages of prose and poetry, and must be familiar with the rules of spelling and punctuation.

Part I in the grammar of Fraser & Squair, together with a French Reader like Aldrich's or Sym's, with exercises in French Composition, constitute the required work.

HISTORY.

The examination may be taken in "English and American History," in "Ancient History," or in "History of Continental Europe."

(a) **ENGLISH-AMERICAN HISTORY.** The examination will be adapted to a one-year's course of five exercises a week in English History and in United States History, based on McMaster's Brief History of the United States and on Walker's Essentials in English History.

(b) **ANCIENT HISTORY.** The examination will be adapted to the proficiency of those who have studied Greek and Roman History in a systematic course of five exercises a week extending through at least one school year. The examination will be based on Meyer's Ancient History.

(c) HISTORY OF CONTINENTAL EUROPE. The examination will cover the period from 476 A. D. to 1900 A. D., and will be adapted to the proficiency of students who have taken a systematic course of five exercises a week throughout at least one school year. The examination will be based on Meyer's European History.

MATHEMATICS.

ELEMENTARY ALGEBRA. As much as is contained in the better American and English text-books. The student should not only have a thorough understanding of the four fundamental operations with rational algebraic expressions, but he should be thoroughly familiar with the various methods of *factoring*, with the theory of common divisors and multiples, involution, including the binomial theorem for positive integral exponents. He should have a thorough knowledge of the theory of exponents, integral, fractional, positive and negative; of radicals, including the extraction of square roots of polynomials and of numbers; the solution of equations of the first degree involving one or more unknown quantities, and the solution of quadratic equations involving one or two unknown numbers.

PLANE GEOMETRY. As much as is contained in the better American and English text-books. Besides learning to demonstrate rigorously the usual theorems, the pupil should solve a large number of original exercises, including numerical and *loci* problems.

SCIENCE.

The examination will be adapted to the proficiency of those who have studied Chemistry, or Physics, or Physiology, or Botany, or Zoölogy in a systematic course consisting of one school year.

The text-books will be of the following standard:

PHYSIOLOGY.

Martin, *The Human Body*.

Conn, Budington & Allyn, *Advanced Physiology and Hygiene*.

PHYSICS.

Milliken and Gale.

BOTANY.

Gray, *School and Field Botany*.

Coulter, *Plant Life*.

ZOÖLOGY.

Jordan & Kellogg, *Animal Life*.

CHEMISTRY.

Remsen, *General Inorganic Chemistry*.

Departments and Courses of Instruction

College of Arts and Sciences



1914—1915.

Special afternoon courses in every department are arranged for the benefit of teachers.

No course in any department will be opened unless there are at least three applicants for the course (subject to the pleasure of the Committee of Advisers).

DEPARTMENT OF GREEK.

PROFESSOR PATTERSON.

For Undergraduates.

1. ELEMENTARY COURSE. (For the benefit of students who offer other foreign languages in the requirements for admission and who desire to study Greek within the University.) Benner and Smyth; Goodwin, *Greek Grammar*; Pearson, *Prose Composition*; Xenophon (*The Anabasis*). (Greek 1 may not be taken to remove an admission condition, and will not count for honors.) Two years. First year: M. W. F. 8-9; second year: T. Th. S. 8-9.

2. Plato (*Apology, Crito*); Lysias (selected orations); Homer (selections from *Iliad and Odyssey*); Euripides (*Cyclops*); Lectures on the History of Greek Literature and Life. Jevon, *Greek Literature*; Bluemner, *Life of the Ancient Greeks*; prose composition. Required of freshmen who elect Greek. M. W. F. 10-11. One year, or may be taken as half year course.

For Undergraduates and Graduates.

3. GREEK LITERATURE. Aristophanes (*Acharnians, Frogs*); Æschylus (*Prometheus Bound*); Sophocles (*Ædipus Tyrannus*); Euripides (*Bacchæ*). Required of students who elect Greek. T. Th. S. 11-12. One year.

4. ENGLISH COURSE IN GREEK DRAMA. Talks on the Dramatic Art and Literature of the Greeks, with reading and study of Greek plays in translation. Æschylus, Sophocles, Euripides, Aristophanes (selected at the pleasure of the instructor). *This course is especially designed for those who have not studied Greek, but who wish to become acquainted with the culture and literature of ancient Greece.* Two hours a week. One semester.

Primarily for Graduates.

Hours to be arranged.

5 and 6. Advanced courses in Greek will be arranged for students who are candidates for the Master's degree and wish to take Greek as their major subject.

DEPARTMENT OF LATIN.

PROFESSOR BLACKWELL.

MR. DUSTIN.

Courses for Undergraduates.

1. ELEMENTARY COURSE. (For the benefit of students who offer other foreign languages in the requirements for admission, and who desire to study Latin within the University.) Pearson, *Essentials of Latin*; Bennett, *Latin Grammar*; Pearson, *Latin Prose Composition*; Allen and Greenough, *Caesar*, four books; Cicero, *Milo*, *Marcellus*, *Ligarius*, and the *Fourteenth Philippic*; Bennett, *Vergil's Aeneid*, four books. (Latin 1 may not be taken to remove an admission condition and will not count for honors.) First year T. Th. S. 9-10. Second year M. W. F. 9-10. Two years.

2. Herbermann, *Sallust's Jugurtha*; Bradley, *Livy*, Book I and selections from II-X, with constant attention to grammatical and syntactical forms; Latin Prose Composition. T. Th. S. 10-11. One year.

3. Morris, *Horace's Satires and Epistles*, Allen, *Tacitus, Germania and Agricola*. Latin Prose Composition continued. Prerequisite: Latin 1. M. W. F. 11-12. One year.

For Undergraduates and Graduates.

4. Moore, *Horace's Odes and Epodes*; Stuart, *Juvenal's Satires*, five satires; Mathis and Wheeler, *Advanced Prose Composition*. Prerequisite: Latin 1 and 2. M. W. F. 11-12. One year.

5. Ball, *Selections from Seneca*; Merrill, *Pliny's Letters*; Lectures on Roman Public and Private Life. Prerequisite: Latin 1, 2, and 3. T. Th. 3-4. One year.

6. Plautus, *Rudens*; Kingery, *Seneca's Plays*; Terence, *Phormio*; The Roman Drama. Prerequisite: Latin 1, 2, and 3. M. F. 12-1. One year.

Primarily for Graduates.

Hours to be arranged.

7. Lucretius, *De Rerum Natura*, a study of language, style, and sources of the poet's work. Two hours a week. One year.

8. Petronius, *Cena Trimalchionis*, with a study of the vernacular of the people. Two hours a week. One year.
9. Robinson, *Public and Private Roman Law*. Two hours a week. One year.
10. Egbert, *Introduction to Latin Epigraphy*. Two hours a week. One year.

DEPARTMENT OF HEBREW.

PROFESSOR BLACKWELL.

Hours to be arranged.

1. Mannheimer, *Hebrew Grammar and Readings*; Translations from English into Hebrew. Two hours a week. One year.
2. Davidson's Grammar. Biblical historical reading. Two hours a week. One year.
3. *The Psalms, Isaiah, The Song of Songs*. Lectures. Two hours a week. One year.

DEPARTMENT OF ENGLISH.

PROFESSOR PERROW.

MISS TERRY.

The aim of the work in the department of English is three-fold:

1. The department aims to give a training in English composition adequate for the ordinary demands of social, commercial, and professional life. Practice in writing is begun in English 1, and written work is called for in all subsequent courses.
2. The courses are so arranged that, taken together, they afford opportunity for the study of the origin and development of the English language and literature.
3. The department seeks especially to give such training as will develop the power of the student to interpret and appreciate the work of the master writers of English, and to inspire an interest in them such as will lead to a further study of literature.

For Undergraduates.

1. (a) ENGLISH COMPOSITION. The work in this course consists of a careful study of selected models of English prose, and the practical application of the results of such study to regular work in composition. Woolley, *Handbook of Composition*, Woolley, *Exercises*, and Canby, *English Composition*. Required of all undergraduates. T. Th. S. 10-11. One year.

2. **ENGLISH LITERATURE.** This course is intended (1) to give some idea of the development of English literature, (2) to interest the student in the study of the more important English writers, and (3) to give some opportunity for practice in writing. Required of all undergraduates. Cunliffe, *Century Readings*. M. W. F. 11-12. One year.

For Undergraduates and Graduates.

Students are not admitted to any elective course in English until all conditions that may have been imposed previously are fully satisfied. "Make up" and "condition" examinations will be held for 1914-15 on September 26 and May 7, at 2:00 p.m.

3. **SHAKSPERE.** In this course the work in Shakspeare is made a nucleus for a general view of Elizabethan drama. A careful study of selected plays read in class, and written reports on plays assigned for outside reading. Lectures on Elizabethan drama.

(b) In 1914-15 the class will study *Henry IV*, 1 and 2, *Macbeth*, *Lear*, and *All's Well*. Temple or Tudor edition. T. Th. S. 11-12. One year.

4. **CHAUCER.** A careful class-room study of selections from Chaucer in connection with outside reading in Middle English literature, and lectures on political, social, and literary conditions of the time. M. W. F. 4-5. One year.

5. **ANGLO-SAXON.** This course is intended (1) to give a fair reading knowledge of Anglo-Saxon prose and poetry, and (2) to furnish a basis for a more advanced study of the English language. Bright, *Anglo-Saxon Reader*; and Wyatt, *Beowulf*. One year. [Omitted 1914-15.]

6. **NINETEENTH CENTURY POETRY.** This course consists of the reading and interpretation of selections from the more important poets of the Nineteenth Century, and a consideration of their relations to some of the political, social, and scientific tendencies of the time. One year. [Omitted 1913-14.]

7. **NINETEENTH CENTURY PROSE.** A wide reading in the more important prose writers of the Nineteenth Century, with some consideration of their relations to some of the problems of the age. One year. [Omitted 1913-14.]

8. **NINETEENTH CENTURY PROSE FICTION.** A wide reading of Nineteenth Century novels and short stories, with some attempt at connecting them with significant thought movements.

(a) Types of Fiction distinguished. Lectures on the theory of narration and on the History of the Novel. One year. [Omitted 1914-15.]

(b) Representative novels and stories read and discussed. Lectures on the History of the Novel. M. W. F. 3-4. One year.

DEPARTMENT OF GERMAN.

PROFESSOR SPILLMAN.

PROFESSOR BLACKWELL.

NOTE.—The department reserves the right to omit in 1914-15 any courses from 5-10, the omission of which it may think advisable.

1. ELEMENTARY COURSE. For the benefit of students who offer other foreign languages in the requirements for admission; for such as desire to begin German in the University or wish to review the elements. German 1 may not be taken to remove an admission condition and will not count for honors. Phonetics, pronunciation, grammar exercises; reading of easy selections; committing of poems and singing of songs comprise the work. Vos, *Essentials of German* and Prokosch, *Reader and Selected Texts* will be used. M. W. F. 9-10. One year.

2a. ELEMENTARY COURSE. This constitutes the second year's work in German. Conversation, composition, modern and classic reading, committing of selections and singing of songs make up the work. *Kreuz and Quer durch deutsche Lande*; German stories, Vol. I, and selections; Pope, *Writing and Speaking German*; Allen's *Composition*; Baumbach, *Schwiegersohn*; Schiller, *Tell and other dramas*. M. W. F. 4-5. One year.

2b. SCIENTIFIC GERMAN. For students who major in science; a course in scientific German. Prerequisite: German 1, or its equivalent. The course is the same as the regular course 2a (second-year work), but does one hour a week scientific reading. Dippold, *Scientific Reader and Scientific Essays*. M. 3-4, W. F. 4-5. One year.

For Undergraduates and Graduates.

3. INTERMEDIATE COURSE. This work consists of advanced composition and conversation, history of German Literature, and classic readings; poems and scenes from dramas will be memorized and given in the German Club. Keller, "*Bilder aus der deutschen Literatur*," *Aus Vergangener Zeit*; Mogk, *Deutsche Sitten und Bräuche*; Wiehr, *German Composition*; Scheffel, *Ekkehard*; Dahn, *Ein Kampf um Rom*; Suderman, *Katzensteg*. T. Th. 3-4, S. 9-10. One year.

4. INTERMEDIATE COURSE. This is a reading course in Goethe's *Faust*, parts I and II; Study of the history of the German language and writing of German reports.

Thomas, *Goethe's Faust*, I and II; Thomas, *German Grammar; Prose Selection*; Weise, *Unsere Muttersprache*; (Freie Reproduction). T. Th. S. 10-11. One year.

5. INTERMEDIATE COURSE. (c) This course is an alternate course with course 3, intended for students of science who have had two years of German. Instead of classic reading, scientific reading is substituted once a week.

Wiehr, *German Composition*; Lambert, *Alltägliches*; Wallenstein, *Grundzüge der Naturlehre*; Suderman, *Katzensteg*; Schiller, *Lied von der Glocke*; Helmholtz, *Populäre Vorträge*; and others. Three times a week. One year.

6. SCHILLER COURSE. Life and works of Schiller with special emphasis on the trilogy of *Wallenstein* and the *Thirty Years' War*. Essays and Reports in German are required of the students.

Carruth, *Schiller's Wallenstein*; Palmer, *Schiller's Geschichte des dreissig-jährigen Krieges, Drittes Buch*; Kluge, *Deutsche National Litteratur* and selections. Three times a week. One year.

7. Goethe's *Meisterwerke*. An introductory course to Goethe's works, and a study of his life.

Bernhardt, *Goethe's Meisterwerke*; Wiehr or Cutting, *German Composition; Auswahl deutscher Prosa der Gegenwart*; G. Hein, *Stories from Keller and Meyer*. Three times a week. One year.

8. LESSING COURSE. Lectures on the life and works of Lessing, emphasizing his importance to modern art-criticism through a study of his *Laocoön*. Essays and reports in German are required of the students. Prerequisite: German 1, 2, or 3, or their equivalent. Two hours a week. One year.

9. MIDDLE HIGH GERMAN. Prerequisite: German 4. *Der arme Heinrich*; *Das Nibelungenlied*; Paul, *Mittelhochdeutsche Grammatik* and Paul, *Prinzipien der Sprachgeschichte*. Two hours a week. One year.

10. GOTHIC. Elements of the language. Prerequisite: German 4. Reading from Wulfila's translation of the gospels; Gothic and Greek. Streitberg, *Gotisches Elementarbuch*; Kluge, *Von Luther bis Lessing*, and selections. Two hours a week. One year.

DEPARTMENT OF ROMANCE LANGUAGES.

PROFESSOR BLACKWELL.

PROFESSOR VON WALTHER.

PROFESSOR McMAHON.

FRENCH.

NOTE: The department reserves the right to omit in 1914-15 any courses from 5 to 10, the omission of which it may think advisable.

1. ELEMENTARY FRENCH. French 1 may not be taken to remove an admission condition and will not count for honors. Grammar, reading, composition. Thieme and Effinger, *French Grammar*; Francois and Giroud, *Simple French*; About, *Mère de la Marquise*; Sand, *Francois le Champi*. M. W. F. 3-4. One year.

2. ELEMENTARY FRENCH. This course includes a review of French grammar, and a considerable amount of reading. Prerequisite: French 1, or its equivalent.

Buffum, *French Short Stories*; Hugo, *Les Misérables* (D. C. Heath), *Hernani*; Molière, *Précieuses Ridicules*; *Femmes Savantes*; Musset, *Poésies*; Vreeland and Koren, *French Composition*. T. Th. S. 10-11. One year.

For Undergraduates and Graduates.

3. INTERMEDIATE COURSE. French Prose and Poetry. This course, which is conducted as far as possible in French, is intended to enable the student to translate difficult French accurately, and to read ordinary French without translating. There is constant practice in advanced prose composition, and the history of the literature of the last three centuries is covered by collateral reading. Prerequisite: French 2.

Corneille, *Horace*; Racine, *Athalie*; Balzac, *Eugénie Grandet*; Rostand, *Princesse Loiraine*; Henning, *Representative French Lyrics of the Nineteenth Century*; Sainte-Beuve, *Selections*; Sanderson, *Through France and French Syntax*. T. Th. 3-4. Sat. 11-12. One year.

4. (a) BALZAC. This course deals with the life and works of Balzac. There is much reading in and out of class, and critical works on the author by Brunetière and others are studied. T. Th. S. 9-10. First semester.

4 (b) THE ROMANTIC SCHOOL. The main object of this course is to acquaint the student with the poetry of the French Romantic School. Attention is devoted particularly to Victor Hugo, Alfred de Musset, Alfred de Vigny, and Lamartine. T. Th. S. 9-10. Second semester.

5. GENERAL VIEW OF FRENCH LITERATURE. A study of the history of French literature to the present time, and the reading of a large number of literary masterpieces produced in France since the seventeenth century. T. Th. 4-5, S. 11-12. One year.

6. THEATRE MOLIERE. The life of Molière, and his minor plays as well as his great plays are studied; the literary movements of the sixteenth and seventeenth centuries receive special attention.

Ernest Thirion, *Théâtre Choisi de Molière*, Delpit, *L'Age d'or de la Littérature Française*; H. C. Chatfield-Taylor, *Molière, a Biography*. Three time a week. One year.

Primarily for Graduates.

Hours to be arranged.

7. LITERATURE OF THE SEVENTEENTH CENTURY.

8. LITERATURE OF THE EIGHTEENTH CENTURY.

9. LITERATURE OF THE NINETEENTH CENTURY.

10. OLD FRENCH. Are introduction to the language and literature of the Old French Period, with the reading of representative works.

SPANISH.

For Undergraduates.

1. ELEMENTARY SPANISH. Spanish 1 may not be taken to remove an admission condition and will not count for honors. The object of this course is to give the essentials of Spanish grammar as a preparation for reading and writing the language. Reading is begun early in the year, and there is constant practice in translating from English into Spanish. Ingraham-Edgren, *Spanish Grammar*; De Haan and Morrison, *Cuentos Modernos*; Alarcón, *Novelas Cortas*; Galdós, *Marianela*. M. W. F. 9-10. One year.

For Undergraduates and Graduates.

2. NINETEENTH CENTURY SPANISH. This course is intended to acquaint students with Spanish literature of the nineteenth century. A large amount of prose and verse is translated, and there is constant practice in Spanish composition. The literary history of the period is covered by means of collateral reading. Prerequisite: Spanish 1 or its equivalent.

Galdós, *Dona Perfecta*; Valera, *Pepita Jiménez*; Pereda, *Pedro Sánchez*; Gutierrez, *El Trovador*; Echegaray, *O Locura o Santidad*; *Las Cien Mejores Poesías Castellanas*; Crawford, *Spanish Composition*. M. W. F. 10-11. One year.

3. **SPANISH LITERATURE OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.** This course deals with the classical period in Spanish literature. The first part of the *Don Quixote* is read, and representative plays by Lope de Vega, Tirso de Molina, Guillén de Castro, and Calderón are taken up. A number of ballads are also read. There is practice in prose composition and collateral reading in the history of the literature. Prerequisite: Spanish 2. One year. [Omitted 1914-15.]

ITALIAN.

Hours to be arranged.

1. Young, *Italian Grammar*; Bowen, *Italian Reader*; *I Promessi Sposi*. Open to all students, but may not be taken to remove an admission condition, and will not count for honors. Two hours a week. One year.

2. Tasso, *Girusalemme Liberata*, three cantos; Machiavelli, *Principe*. Two hours a week. One year.

3. Selections from Boccaccio; Dante, *Purgatorio*. Advanced Prose Writing. Two hours a week. One year.

DEPARTMENT OF HISTORY.

PROFESSOR VON WALTHER.

For Undergraduates.

1. **HISTORY OF MEDIAEVAL CONTINENTAL EUROPE.** A general course, beginning with the Migration of Nations and leading up to the time of the Reformation. The first term treats of the causes and the effects of the Migration, the history of Early Christianity, the rise of Mohammedanism, the Empire of Charlemagne, and the development of Feudalism. The second term takes up the history of the Mediaeval German Empire, the development of the temporal power of the Papacy, the Crusades, Scholasticism, and the history of France and of Italy to the time of the Renaissance.

Special stress is laid upon a good understanding of the Mediaeval Mind, of the cultural, economic, and political developments of Mediaeval Life and its relation to Modern History. Required of all undergraduates.

Richardson, *Syllabus of Continental European History*; Emerson, *Introduction to the Middle Ages*; Emerson, *Mediaeval Europe* or Robinson, *History of Western Europe*. M. W. F. 10-11. One year.

2. HISTORY OF MODERN CONTINENTAL EUROPE. A general course, beginning with the Renaissance and ending with the year, 1789.

In this course the special topics for the first semester are the Renaissance, the Reformation, and the Religious Wars, as also the Rise and Fall of Spain as a World-power.

The second semester treats of the development of Absolutism in France and the political, social and economic conditions leading to the French Revolution; also of the effects of the Treaty of Utrecht on Europe, the rise of Russia and of Prussia, and of the period of Enlightened Despotism.

This course aims to give to the students a clear understanding of the forces that led to the modern development of Science, Art, and Literature, of the experiments in France in regard to economics and internal political government and of the development of the "Balance of Power"—theory with its application to recent history. Prerequisite: Some knowledge of Mediaeval History. Richardson, *Syllabus of Continental European History*; Lodge, *History of Modern Europe*; Robinson, *History of Western Europe*, or Harding, *New Medieval and Modern History*. M. W. F. 11-12. One year.

3. GREEK HISTORY. This course presents a study of the evolution of political ideas from the Greek City-States, through Alexander's Empire to the Roman Empire; it also serves as a historic basis for an understanding of the contributions of the Greeks to later civilization through their philosophy, their Universities and their Art. Prerequisite: Students taking this course must have a general knowledge of European History and must also attend History 8 for the first semester.

Morey, *Outline of Greek History*, or Bury, *A Student's History of Greece*, together with extensive prescribed reading. T. Th. 11-12. One year.

4. ROMAN HISTORY. This is a general course, showing the development of the Roman State from its beginning to 476 A. D. and emphasizing those economic, social, and religious questions which form the basis of European Mediaeval and Modern History. Prerequisite: Students taking this course must have a general knowledge of European History. Morey, *Outline of Roman History*, together with extensive prescribed reading in Ihne, Mommsen, Ferrero, etc. Twice a week. One year. [Omitted in 1914-15.]

5. ENGLISH HISTORY.....A general course for students who have had no English History in the High School. It begins with the Roman Conquest and leads up to the Nineteenth Century; care is taken to make clear the political conditions which influenced the growth of the Constitution, as also the mutual influence of Continental European and English History. Prerequisite: History 1 and 2, or their equivalent. Cheyney, *A Short History of England*; Cheyney, *A Book of Readings in English History*. Twice a week. One year. [Omitted in 1914-15.]

For Undergraduates and Graduates.

6. HISTORY OF THE NINETEENTH CENTURY IN CONTINENTAL EUROPE. This course begins with a summary of the French Revolution and considers during the first term especially the effect of Napoleon's reign upon European history, the Congress of Vienna, the period of Reaction and the conflict between liberal and reactionary tendencies leading to the revolutions in 1830 and 1848.

The work in the second term covers the establishment of the Kingdom of Italy, of the German Empire and of the French Republic, followed by lectures on the Eastern Question, the advent into the World's history of the United States, of Japan, and of China, and gives a general outline of modern history up to 1914. Prerequisite: Courses 1, 2 and 5 or their equivalent. Robinson and Baird, *The Development of Modern Europe*, together with extensive prescribed reading. M. F. 4-5. One year.

7. HISTORY OF PHILOSOPHY. (Professor Caldwell.) For description see Department of Philosophy, Course 5.

8. HISTORY OF MATHEMATICS. (Professor Siff.) For description see Department of Mathematics, Course 6.

9. HISTORY OF MUSIC. (Professor Grant.) For description see Department of Music, Courses 2 and 4.

10. HISTORY OF EDUCATION. (Professor Patterson.) Required of all candidates for the degree of Bachelor of Science in Education. Paul Monfoe, *History of Education*. One year.

11. HISTORY OF ARCHITECTURE. (Mr. Gray.) For description see Department of Technical Courses, Course 6.

Primarily for Graduates.

12. HISTORY OF CIVILIZATION. The first semester deals with the social and economic conditions of the Middle Ages, as influenced first by Feudalism and later by the development of the cities; it also covers the intellectual and artistic development

of the same period under the influence of Scholasticism, of the Crusades, and of the newly awakened national feeling.

The second semester treats of the Renaissance, of the intellectual and economic influence of the Reformation and of territorial discoveries, as also of the progress of science; special stress is laid upon the changes effected during the Nineteenth Century. Prerequisite: History 1, 2, and 6 or their equivalent, as also a good reading knowledge of both French and German. Seignobos, *History of Civilization*; Draper, *The Intellectual Development of Europe*; Richard, *History of German Civilization*. Twice a week. One year.

13. THE RISE OF PRUSSIA. This course traces the history of the Mark Brandenburg and of Prussia from their early beginnings through the reign of the Great Elector, of Frederick William I and of Frederick the Great to the Napoleonic period and from there through the periods of Reorganization and Reaction to the founding of the German Empire. Prerequisite: History 1, 2, and 6, or their equivalent, as also a good reading knowledge of both French and German. Lectures. Twice a week. One year. [Omitted in 1914-15.]

14. THE FRENCH REVOLUTION. The study of the "ancien régime" is followed by the history of Louis XVI, the meeting of the States General and the development of the Revolution through its various stages to the establishment of the Directorate. This course also takes up the study of the foreign sentiment during this period as shown in politics and literature, and the continuity of the revolutionary movement during the Nineteenth Century. Prerequisite: History 1, 2, and 6, or their equivalent, as also a good reading knowledge of French. Lectures. Twice a week. One year. [Omitted in 1914-15.]

DEPARTMENT OF PHILOSOPHY.

PROFESSOR CALDWELL.

NOTE 1: Philosophy 5 is the required course in Philosophy.

NOTE 2: The department reserves the right to omit in 1914-15 any courses from 3 to 10 (excepting course 5) the omission of which it may think advisable.

1. PSYCHOLOGY. A study of the nature of consciousness in its relation to external conditions and cerebral accompaniments. Attention will be given to the nervous system, sensation, perception, feeling, attention, instinct, habit, memory, ideas, language, imagination, concepts, the self, will, dissociation, applications

of psychology, and other topics. Texts used in 1913-1914: Pillsbury, *Essentials of Psychology*; Judd, *Psychology*. T. Th. 3-4, S. 9-10. First semester.

2. ADVANCED PSYCHOLOGY. A study of social psychology, including the consideration of suggestibility, the crowd, fashion, conventionality, custom, rational imitation, conflict, public opinion, and related topics. The foregoing will be supplemented by a study of the application of psychology to industry and business. Texts used in 1913-14: Ross, *Social Psychology*; Münsterberg, *Psychology and Industrial Efficiency*. T. Th. 3-4, S. 9-10. Second semester.

3. EDUCATIONAL PSYCHOLOGY. A study of the psychological principles of teaching. Consideration of the educational significance of recapitulation, instinct, heredity, hygiene, individual differences, memory, association, imitation, originality, imagination, apperception, motor expression, thinking, emotion, interest, volition, and other phases of psychology. Text used in 1913-1914: Bolton, *Principles of Education*. M. W. F. 3-4. First semester.

4. SOCIOLOGY. During the whole of the first semester and half of the second, the work consists of a study of problems, facts, and theories of practical sociology. The course involves the consideration of social problems including among others poverty, crime, insanity, blindness, deafness, public health, education, labor, immigration and child welfare. The class will visit certain factories and such philanthropic and correctional institutions as offer opportunity for investigation and research.

The remainder of the year is devoted to the study of social forces; and the laws, the processes, and the development of society are considered.

Texts used in 1913-14: Wright, *Practical Sociology*; Smith, *Social Pathology*; Dealy and Ward, *Text-Book of Sociology*; Ross, *Changing America*. T. Th. 4-5. One year.

5. HISTORY OF PHILOSOPHY. A study of the history of philosophic thought in ancient, mediaeval, and modern times; problems, doctrines, and tendencies from Thales through Herbert Spencer. Text used in 1913-1914: Cushman, *A Beginner's History of Philosophy*. Source books used in 1913-1914: Bakewell, *Source Book in Ancient Philosophy*; Partridge, *Reading Book in Modern Philosophy*. T. Th. 2-3, S. 12-1. One year.

6. METAPHYSICS. A study of the leading types of contemporary philosophical theory; problems and doctrines of being and knowledge; consideration of pragmatism and other current

theories of the nature of truth. Texts used in 1913-1914: Marvin, *A First Book in Metaphysics*; Perry, *Present Philosophical Tendencies*. M. W. F. 4-5. Second semester.

7. ETHICS. A study of the principles of moral judgment, with exposition and criticism of the great theories concerning the basis of the distinction between right and wrong conduct. A consideration of the nature of goodness, duty, virtue, culture, and religion. Both the theoretical and the practical problems of ethics are studied. Texts used in 1913-14: Thilly, *Introduction to Ethics*; Palmer, *The Nature of Goodness*; Perry, *The Moral Economy*. M. W. F. 4-5. First semester.

8. AESTHETICS. A study of the principal aesthetic problems and doctrines. Text used in 1913-1914: Raymond, *The Essentials of Aesthetics*. M. W. F. 3-4. Second semester.

For Undergraduates and Graduates.

9. LOGIC. A study of the formal laws of thought, with their application to the special methods of the sciences; outlines of the general character of the thinking process. Consideration of certain recent contributions to logic. Hours to be arranged. Second semester.

Primarily for Graduates.

10. Special work will be arranged for those wishing to pursue advanced study in philosophy or psychology.

DEPARTMENT OF MATHEMATICS.

PROFESSOR SIFF.

For Undergraduates.

NOTE 1: All students are required to take either 1 and 2, or 2 and 3.

NOTE 2: The department reserves the right to omit in 1914-15 any courses from 6 to 12, the omission of which it may think advisable.

1. (a) PLANE AND SPHERICAL TRIGONOMETRY. Correct definition of trigonometric functions, trigonometric equations, inverse functions, and the application of trigonometry to practical problems.

(b) SOLID GEOMETRY. In addition to the usual theorems considerable time is devoted to original exercises. Granville, *Trigonometry*; Phillip and Fisher, *Solid Geometry*. T. Th. S. 11-12. One year.

2. HIGHER ALGEBRA. This course starts with the Arithmetic and Geometric Progressions and covers the theory of Quadratic Equations, Binomial Theorem, Permutation and Combination, Logarithms, Convergency and Divergency of Series, Summation of Series in general, Partial Fractions, Probability, Determinants, and the general theory of Equations. Hall and Knight, *Higher Algebra*, M. W. F. 10-11. One year.

3. ANALYTIC GEOMETRY. This course is continued through the year; it covers the point, line, circle, and the three simple conics. Considerable time is devoted to the discussion of the general equation of the second degree. Woods and Bailey: *Analytic Geometry*. T. Th. S. 9-10. One year.

NOTE: Math. 3, on the demand of a sufficient number of students, may be repeated in the afternoon.

4. (a) THE GENERAL THEORY OF EQUATIONS, based on the treatise of Burnside and Panton. Useful to students who wish to have a more thorough knowledge of Algebra, and who intend to teach mathematics.

(b) ADVANCED TRIGONOMETRY. The study of imaginaries, exponential functions, trigonometric series, are essential features of this course. Burnside and Panton, *Theory of Equations*. Vol. I; Loney, *Trigonometry*. Vol. II. T. Th. S. 10-11. One year.

5. DIFFERENTIAL AND INTEGRAL CALCULUS. The first term is devoted to Differential and the second term to Integral. The course covers the fundamental principles and processes of differentiation and integration, with much use of graphical methods and the application of the Calculus to Geometry, Mechanics, and Physics. An elementary course. Prerequisite: Math. 1, and 3. Granville, *Differential and Integral Calculus*. M. W. F. 11-12. One year.

6. THE HISTORY OF MATHEMATICS. This course consists of a series of lectures. It is useful not only to the student and teacher of Mathematics, but to the general public as well. The lectures begin with the Greek Mathematicians, and the student is gradually instructed in the development of the subject of Mathematics up to the present day. Considerable attention is paid to the relation of Mathematics to Philosophy, particularly to the great problem of Ethics. This course is open to juniors, seniors, and graduate students. Other students should consult the Professor in charge before registering. W. 5-6. One year.

7. MATHEMATICAL PEDAGOGY. This course is primarily designed for teachers in mathematics and for those who intend to

teach mathematics in the public schools. Lectures. Sat. 12-1. One year.

Primarily For Graduates.

8. ADVANCED DIFFERENTIAL AND INTEGRAL CALCULUS. Prerequisite: Math. 5. Lectures and recitation. M. W. F. 3-4. One year.

9. SOLID ANALYTIC GEOMETRY. Prerequisite: Math. 3 and 5. Lectures and recitations. Three hours a week. One year.

10. DIFFERENTIAL EQUATIONS. Partial and Linear. Important to students who make a specialty of Mathematics and to students of Physics. Three hours a week. One year.

11. THE THEORY OF ALGEBRAIC CURVES, based on Wieleitner. The tracing of curves, the derivation of the Algebraic Equation from the given Geometric conditions, and the general theory of Asymptotes are essential features of this course. Prerequisite: Math. 3, 4, and 5. Lectures and recitations. Three hours a week. One year.

12. THE THEORY OF FUNCTIONS FOR REAL AND COMPLEX VARIABLES. Based on Harnack, and Picard's *Traité d'Analyse*. Prerequisite: Math. 3, 4, 5, and 8. Three hours a week. One year.

DEPARTMENT OF PHYSICS.

PROFESSOR ANDERSON.

PROFESSOR SIFF.

For Undergraduates.

1. GENERAL PHYSICS. A general course including the principles of mechanics, sound, heat, light, and electricity. This course is required of all academic students who elect Physics. Lectures, recitations, and laboratory work. Crew, *General Physics*. T. Th. S. 11-12, T. Th. 2-4. One year.

2. MECHANICS AND HEAT. A more thorough and more mathematical treatment than is offered in Physics 1. Franklin and McNutt, *Mechanics and Heat*. T. Th. 10-11. One year.

3. LIGHT. An advanced course based on Edser's *Light*. Lectures 3 hours a week. Laboratory work to be arranged. M. W. F. 11-12, M. 2-4. One year.

4. ELECTRICITY AND MAGNETISM. An advanced course; lectures and laboratory work. Hadley, *Magnetism and Electricity for Students*. One year.

5. DYNAMO—ELECTRICITY. A study of direct current dynamos and motors. For further description see under "Technical Courses." Prerequisite: Physics 1. *Elements of Electrical Engineering*, vol. I., Franklin and Esty, *Dynamo Laboratory Manual*. F. 10-11, Th. 2-4.

DEPARTMENT OF TECHNICAL COURSES.

PROFESSOR ANDERSON.

MR. BRIGMAN.

The University of Louisville has not, as yet, a full department of engineering, but the following studies, which correspond to the first two years' work usually required by the best engineering schools, are now open to students who intend to become engineers. The University earnestly hopes that these courses will eventually lead to the development of a complete Department of Engineering.

FRESHMEN YEAR:

Trigonometry and Higher Algebra.....	6	hours.
Physics 1	3	"
Physics 2	6	"
English	3	"
Drawing	4	"

SOPHOMORE YEAR:

Analytic Geometry and Calculus.....	6	hours.
Chemistry	6	"
Mechanics and Heat	2	"
Dynamo-Electricity	4	"
English	3	"
German	3	"
Drawing	4	"

1. DYNAMO-ELECTRICITY. The laboratory course consists of work with dynamos and motors under practical working conditions; measurements of efficiency; plotting of characteristic curves, etc. The lecture course takes up various principles connected with the operation and design of direct current machinery. The laboratory equipment consists of the various types of motors and generators, the motive power being furnished by a gas engine of ample capacity. A complete set of ammeters and volt meters, together with rheostats for absorbing the output of the plant, and dynamometers for measuring the power supplied, enables the

student to make not only the usual commercial tests, but also to carry on investigations of a more advanced character.

The attention of students interested in engineering is invited to the excellent equipment of the physical laboratory. This is constantly being increased with the best modern apparatus, and offers ample opportunity for students to do individual experimental work in physics.

2. **SURVEYING.** The work consists of the use of the chain, compass, transit, and level in the laying out and dividing of land, establishment of grades, drawing of maps, etc. The practical work is supplemented by a lecture and recitation course, in which the various problems to be met are studied and the principles underlying them described. The University is equipped with first-class instruments of the most modern type to carry out the practical part of the instruction. Open to students who have had trigonometry. Hours to be arranged.

MECHANICAL DRAWING. In the Mechanical Drawing Course work is given that is useful for Teachers, Engineering students, and Artisans.

Ample facilities are provided, and a comprehensive course, both Elementary and Advanced, is offered.

3. **MECHANICAL DRAWING. Elementary Course.** In this course the student is taught the accurate and careful use of the instruments, free-hand sketching, the principles of projection, lettering, and the reading and construction of Mechanical Drawings. Hours to be arranged.

4. **MECHANICAL DRAWING. Advanced Course.** This course is given only to those having completed the Elementary Course or its equivalent. The work consists of detailed Theoretical drawing, Descriptive Geometry for those needing this subject, and the principles of Machine Design. Lectures and Texts both to be employed. Hours to be arranged.

5. **ARCHITECTURAL DESIGN.** With the co-operation of the Louisville chapter of the American Institute of Architects, the University has arranged a course for draughtsmen in design, supplemented by a course of lectures on the History of Architecture. This course will be open to all draughtsmen without examinations for admission. The studies of the courses are so arranged that students may do their work during any spare time of day or night at their disposal.

A certificate of proficiency for successful work done in the Architectural courses will be presented by the University to

special students who satisfy the usual tests, and the courses will also be counted toward the baccalaureate degree in the case of regular students who elect them.

6. THE HISTORY OF ARCHITECTURE. Lectures on "The History and Principles of Architecture," consisting of a study of the development of the types of buildings of the various periods when European architecture was most successful. Starting with the earliest Greek examples, the subject is brought down to the architecture of the present. Required Reading: Fletcher, *A History of Architecture*; Anderson and Spiers, *Architecture of Greece and Rome*; Corroyer, *Gothic Architecture*; Anderson, *The Architecture of the Renaissance in Italy*; Hamlin, *A History of Architecture*. Reference Works: Greek-Cockerell, *Temples of Aegina and Bassae*. Stuart & Revett, *Antiquities of Athens*. D'Espouy, *Antiquities*. General-D'Espouy, four volumes. Durand, *Parallèle des Edifices de tout genre*. Gailhabant, *Monuments, Anciens et Modernes*. Alternate Tuesdays. Hours to be arranged. One year.

7. FREE-HAND DRAWING. Hours to be arranged.

DEPARTMENT OF CHEMISTRY.

PROFESSOR ROBINSON.

PROFESSOR CHANDLER.

MR. ED. COX.

For Undergraduates.

1. GENERAL AND INORGANIC CHEMISTRY. A general survey of the principles of chemical action as illustrated by the common elements and compounds. Emphasis is laid on the relations of chemical science to everyday life and to industrial economy. In the laboratory, the student prepares and studies the reactions of the more common substances, and is early led into systematic qualitative analysis, as the best means of getting an insight into the methods of Chemistry, and, in the case of those who expect to continue its study, of laying a foundation for more advanced work. Required of pre-medical students. Kahlenberg, *Outlines of Chemistry*. Lectures and recitations, M. W. F. 2-3, Laboratory, M. W. 3-5. One year.

2. ADVANCED INORGANIC AND ANALYTICAL CHEMISTRY. A review and amplification of Chemistry 1. Special attention is paid to the principles and theories of Chemistry, and their applica-

tion to the analytical work of the laboratory, in order to develop habits of rational procedure, rather than mechanical following of directions. The laboratory work consists of qualitative analysis, in which unknowns are given from the start, and the effort made to develop independence and efficient practical analysis; and in the last third of the year, work in quantitative analysis, particularly volumetric methods. Prerequisite: Chemistry 1. A. Smith, *Inorganic Chemistry*; Robinson, *Elementary Analytical Chemistry*. Lectures and recitations, T. Th. 2-3, Laboratory, M. W. F. 3-5. One year.

3. ORGANIC CHEMISTRY. A study of the principles of the chemistry of carbon compounds. Prerequisite: Chemistry 1. Remsen, *Organic Chemistry*, or Cohen, *Theoretical Organic Chemistry*; Orndorff, *Laboratory Manual*. Lectures and recitations, T. Th. 2-3, Laboratory, 6 hours a week. One year.

4. (a) FOOD CHEMISTRY. In the first semester, the general composition of food materials is discussed, and the chemical processes involved in digestion and utilization of food. The second semester's work includes discussion of food requirements, and the composition, value, adaptability, and preparation of many of the more common food-stuffs. Prerequisite: Chemistry 1 or its equivalent. (High School chemistry courses accepted). Jordan, *Principles of Human Nutrition*; Snyder, *Human Foods and Their Nutritive Value*; Olsen, *Pure Foods*. Lectures and recitations, T. Th. 2-3, Laboratory, T. Th. 3-5. One year.

4. (b) PHYSIOLOGICAL CHEMISTRY. This is a course for medical students which is open to students of the College of Arts and Sciences. It includes a study of the chemistry of food-stuffs, of the processes of digestion, and of general metabolism, and the composition of animal tissues and fluids. Prerequisite: Chemistry 1 and 2. Hawk, *Practical Physiological Chemistry*, and other texts. Lectures and recitations, Th. S. 12-1, Laboratory, 4 hours a week. One year.

5. QUANTITATIVE ANALYSIS. Practice in some of the most important methods of gravimetric analysis, with special attention paid to the development of proper technic and accuracy. Prerequisite: Chemistry 1 and 2. Moody, *Quantitative Analysis*. Laboratory, 8 hours a week. One semester (either first or second.)

Primarily for Graduates.

6. PHYSICAL CHEMISTRY. A non-mathematical discussion of the principal topics of the subject. Prerequisite: Chemistry 1,

2, and 3. Walker, *Physical Chemistry*. Hours arranged to suit conditions. Three hours a week. One semester.

7. ADVANCED ORGANIC CHEMISTRY... Prerequisite: Chemistry 1, 2, and 3. Cohen, *Organic Chemistry*; Gatterman, *Practical Methods of Organic Chemistry*, and other texts. Hours arranged to suit conditions. Class meetings, two hours a week. Laboratory, total of approximately 136 hours. One semester.

8. SPECIAL QUANTITATIVE ANALYSIS. Work in analysis of minerals, soils, water, milk, foods, etc., may be elected by either undergraduates or graduates. Prerequisite: Chemistry 2 and 5. Various texts. Laboratory work entirely. Credit for such work will be based on the amount of satisfactory work accomplished, 136 hours being considered the normal standard for one-half unit. One semester.

A brief course in History of Chemistry is required of candidates for the Master's degree who elect Chemistry as a major subject.

On account of the growing importance of Chemistry in its relation to Agriculture, a course in Agricultural Chemistry will be arranged whenever there is sufficient demand for it.

LABORATORY FEES IN CHEMISTRY. Five dollars a semester for each course. Apparatus broken by the student is also charged to him. A deposit of five dollars is required from each student, and the deposit is returned to him at the end of the session, minus breakage charges.

DEPARTMENT OF BIOLOGY.

PROFESSOR EDDY.

DR. ZAHNER.

For Undergraduates.

1. ANATOMY. The course consists of practical demonstrations taking up all the important viscera, their gross anatomy and their relations to one another. Also instruction in normal Histology, embracing the use of the microscope, the preparation of tissues, cutting, staining, and mounting of sections, and demonstrations of the minute or microscopical anatomy of the various tissues and organs. M. F. 9-11. First semester.

2. PHYSIOLOGY AND HYGIENE. The course consists of lectures and demonstrations. The lectures will be illustrated by charts and drawings, especially in free-hand drawings in colored chalks made by the instructor during the recitation. M. F. 9-11. Second semester.

For Undergraduates and Graduates.

3. BACTERIOLOGY. A course in the principles of Bacteriology, including methods of studying bacteria, disinfection, etc. T. Th. 9-11. One year.

Primarily for Graduates.

4. BACTERIOLOGY. The course is a comprehensive one in practical bacteriology, in which students are required to perform a systematic line of experiments in the laboratory. Careful attention is given to technique, methods of staining and mounting specimens in the laboratories. These specimens made by the students become their property, proving invaluable for future reference. Four hours a week. One year.

For Undergraduates.

Hours to be arranged.

5. BOTANY. The course deals with the structure and classification of the local flora, and the more elementary details of plant physiology.

During the fall and early spring, as much work as practical will be done in the field. This will be supplemented with work in the laboratory during mid-year, which will include the broader phenomenon of germination and growth. Every effort will be made to render this course as instructive and practical as possible to teachers of Nature Study.

Three hours a week, exclusive of field work. One year.

For Undergraduates and Graduates.

Hours to be arranged.

6. The course deals with Cryptogamic Botany and more detailed physiology of plants, and much attention is paid to histological and experimental phases of the subject. Opportunity is afforded to each student for doing individual work under the supervision of a member of the staff. Three hours a week. One year.

Primarily for Graduates.

Hours to be arranged.

7. The course embraces ecology, organography, and histology. The department reserves the right to modify this course as circumstances may indicate.

For Undergraduates.

Hours to be arranged.

8. ZOOLOGY. The course consists of a general study of the structure of invertebrates and their comparative anatomy. The work begins with the protozoa. Habits, reproduction, nutrition, motion, and sensation are studied. Students are required to work with animals in the laboratory during this course. Classification of the more common animals is made a part of the work. Two hours a week. One year.

9. The course consists of a general study of lower animals and the vertebrates. Study of nutrition, reproduction, motion, and sensation. This course includes laboratory work and as much field work as may be practicable. Dissection of vertebrates by students and classification of animals in general. Prerequisite: Biology 1 or its equivalent. Two hours a week. One year.

For Undergraduates and Graduates.

Hours to be arranged.

10. The course consists of general relations and geographical distribution. Field work. Seminary. One hour a week. One year.

DEPARTMENT OF MUSIC.

PROFESSOR GRANT.

NOTE: The department reserves the right to omit in 1914-15 any course from 1 to 5, the omission of which it may think advisable.

The Department of Music regards a general knowledge of musical expression and an intelligent appreciation of musical form as an important element of culture. Its courses are therefore primarily organized with these ends in view. But the instruction, especially that of the advanced courses, should be of practical value to those who intend to enter upon a professional career.

The regular work of the department is supplemented by public recitals throughout the year, and the aim of these is to illustrate the various modern developments of music which are of general interest.

For Undergraduates.

1. **ELEMENTARY MUSICAL THEORY.** (a) Notation, clefs, signatures; diatonic and chromatic intervals and their inversions; consonance and dissonance; major and minor diatonic scales; chromatic and enharmonic scales; meanings of terms and signs in ordinary use; transposition from one key to another, and from treble to bass, or *vice versa*.

(b) Triads of the major and minor modes; rules of chord connection; range of voices; open and close harmony; tonality; inversions of triads; principle of doubling voices in chords.

(c) Rhythm, duple and triple; modes of accentuation; dynamic, metrical, and harmonical accents.

(d) Melody: rules and exercises in melody writing; the scale line; the chord line; the period form; the perfect cadence; the semicadence; the plagal cadence.

(e) The chords of the sixth; the six-four chords; harmonizing a given melody or a given bass in four parts. T. Th. 3-4. First semester.

2. **HISTORY OF MUSIC.** (a) Primitive music and the early developments of music among oriental peoples, the music of the Greeks and their scales. The course subsequently treats of the following subjects: music in the service of the church, and non-ecclesiastical forms; the history and development of polyphonic forms; the Paris School, Gallo-Belgic School, the School of the Netherlands and the Italian School.

(b) The development of musical instruments; the Organ and organ music; the beginning and development of Oratorio and Opera; Scarlatti and the Neapolitan School; the evolution of the Pianoforte; the German Sonata Composers to the time of Haydn; Haydn, Mozart, and Beethoven; the Orchestra and Absolute Music; the French and Italian schools of the Nineteenth Century. T. Th. 3-4. Second semester.

For Graduates and Undergraduates.

Hours to be arranged.

3. **ADVANCED HARMONY.** (a) Discords; the chord of the seventh; the resolution of a dissonance; the first class of discords; the inversions of the dominant-Seventh-Chord; irregular resolutions of the dominant-Seventh-Chord; the passive resolution; the incomplete Chord of the Dominant-Seventh; the Chord of the Ninth upon the Dominant.

(b) The Five-Nine and its Inversions; the incomplete Chord of the Dominant-Ninth; the Five-Nine in major and minor mode; the discords of the Second, Third, and Fourth Classes; the Altered and Mixed Chords.

(c) Modulations; Harmonizing of Unfigured Basses; Extraneous Modulations; Modulation in Sequences and at Cadences.

(d) Rules of Chromatic Progression; Enharmonic Modulation; Compound Enharmonic Changes; Melodies with Indicated, Intimated, and Optional Modulations.

(e) The Inharmonic Intervals; the Organ Point; Suspensions; Syncopation; Embellishments. Prerequisite: Music 1. Goetschius, *The Theory and Practice of Tone Relations*. Twice a week. First semester.

4. HISTORY OF MUSIC. Music 2 is a prerequisite. This course should be of exceptional interest, and will be in lecture-recital form. Programs will be arranged at each lecture, and the music of the best composers will be rendered by the instructor and others. The course consists of lectures on the following subjects: The Folk Song; The Polyphonic Music of Bach; the Dance and its development; the Suite; the Rondo; the Variation Form; Sonata Form; Analysis of Sonatas of Haydn, Mozart and Beethoven; Development of the Orchestra. Prerequisite: Music 1, 2, and 3, or their equivalent. Twice a week. Second semester.

5. A special course in Sight-Reading is given for teachers in the public schools. Two hours a week. One year.

Arrangements can be made with the head of the department for lessons in piano playing, in singing and in the correct use of the speaking voice.

DEPARTMENT OF ART.

MISS DOLFINGER.

MISS SPERRY.

Hours to be arranged.

1. COURSE IN COMPOSITION IN DESIGN. Principles upon which good design is composed—beginning with line work to show how the line is the foundation of all design, and branching to more complex patterns. The uses of design in compositions in portraits and landscapes will be explained at different stages. Examples of the work of eminent artists are made use of in developing in the student an appreciation of art.

No laboratory fee. The student will furnish his own material.

2. COURSE IN METAL AND JEWELRY WORK. The Metal Work is the practical application of the Design in Art 1. Simple examples in jewelry will be included in the second semester.

DEPARTMENT OF PUBLIC LECTURES.

During the past year this course consisted of a series of lectures on *The History of Mathematics*, by Dr. Louis Siff; on *The History of Architecture* by George Herbert Gray; and of lectures on *The Modern School of English Painters and its Leaders* by Margaret Steele Anderson; *Old Indian Art of the Plain Tribes* by Frederick Weygold; and Wednesday Assembly Hour Talks by the Dean. These short talks at the assembly period on every Wednesday at 12 o'clock M. will be continued during 1914-15.

The following clergymen have been invited to address the students during the collegiate year:

Wednesday, October 7.....	Rt. Rev. Charles E. Woodcock.
Wednesday, November 11.....	Rt. Rev. Dennis O'Donaghue.
Wednesday, December 9.....	Dr. Joseph Rauch.
Wednesday, January 13, 1915.....	Dr. E. Y. Mullins.
Wednesday, February 10.....	Dr. Richard Wilkinson.
Wednesday, March 10.....	Dr. C. R. Hemphill.
Wednesday, April 14.....	Dr. E. L. Powell.
Wednesday, May 12.....	Dr. Maxwell Savage.

BOOKS DONATED TO THE UNIVERSITY LIBRARY SINCE JUNE 6, 1913:

Clarke Lampton	9
A. P. Dustin	1
Augustus Strong	2
Former Pupils	14
Grace Huber	2
Louis Siff	1
E. N. Caldwell	1
W. M. Anderson	1
American Book Company	1
Department of Physics	1
Department of Philosophy	2
Department of English	1
John L. Patterson	1
James A. White	2
Smithsonian Institute	1
A friend	20
The College	163
 Total	 223

FURTHER DONATIONS.

The Alumni	\$10.00
------------------	---------

Students Enrolled in 1913-14

College of Arts and Sciences



Graduate Students

Bottomley, Mary Albert.....	S.B	University of Louisville.
Boyer, Jonas William.....	A.B	Westminister College.
Caldwell, C. Norris.....	A.B.	University of Louisville.
Dean, Thomas P.	A.B.	Howard College.
Gregory, M. Cottell.....	A.B.	University of Kentucky.
Heick, Anna E.....	S.B.	University of Pennsylvania.
Higgins, Lucy	A.B.	University of Kentucky.
Jorgenson, E. L.....	A.B.	Western Bible & Literary College.
King, Julia	A.B.	University of Louisville.
Marshall, Sallie Ewing.....	S.B.	University of Louisville.
Matthews, W. H.....	S.B.	Simpson College.
Mueller, J. Howard.....	S.B.	Illinois Wesleyan.
Murphy, Ethel Allen.....	A.M.	University of Louisville.
McConathy, Elizabeth	A.M.	University of Louisville.
McIner, J. A., Jr.....	A.B.	Baylor University.
Scott, Mattie B.....	A.B.	University of Louisville.
Shelley, Mary Louise.....	A.B.	University of Louisville.
Smith, Elizabeth B.....	A.B.	Salem College.
Stark, Edith M.....	A.B.	University of Louisville.
Struell, Charles	A.B.	University of Chicago.
Terry, Ruth Eagleton.....	A.B.	University of Louisville.
Thompson, Eleanor K.....	A.B.	University of Louisville.
Talleen, Frank Peterson.....	A.B.	Wake Forrest College.
Vivas, E. A.	S.B.	University of Barcelona.
Ward, Helen S.....	A.M.	University of Louisville.
White, James A.....	A.B.	University of Louisville.

Undergraduate Students

Akers, Catherine.	Elbert, Oscar
Abraham, Louise H.	Elliott, Winnifrede
Anderson, Eleanor Hart	Endris, E. J.
Argon, W. W. W. von	Esch, Bianca
Bass, Emily T.	Eschrich, J. L.
Batman, Miles	Eubank, Cyrus L.
Baxter, Romona	Fairleigh, Florence Allan
Baxter, Samuel M.	Fay, Laura M.
Baude, Edith M.	Frank, Olive
Behrens, Edna	Frantz, Juliette
Bell, Madeline R.	Frazee, Ewing
Bennett, Berneita C.	Freeman, W. Webb
Best, Effie	Gailbreath, Ella Lee
Biehl, Marie E.	Gardner, Claudia May
Bishop, Marie	Gibson, Sarah
Black, James R.	Gibson, Elmer
Blanchard, H. W.	Gough, F. Elviere
Blunk, A. S.	Grauman, Edna
Borders, Leo.	Gratz, Saide S.
Bowman, Edw. S.	Gray, Anita E. T.
Brinke, Hermine	Greenaway, Imogene
Broecker, John F.	Griffin, Thomas J.
Campbell, Ruth Douglas	Hale, Floyd
Caldwell, E. N.	Hammack, C. L.
Casey, John J.	Hankins, Annabelle
Chen, Hai An	Harreld, Beatrice M.
Clark, Lois	Harrington, Ruth
Cogswell, Ralph	Hayes, Hamilton G.
Collins, Sarah A.	Hayes, Jos. L.
Collins, George	Hendry, Edna B.
Conrad, Heyde C.	Herr, Susie M.
Cook, Kate L.	Hoskins, Bessie
Crabbe, Lindsay Thorne	Hoskins, Laura
Croxton, Thomas Wade	Huber, Grace B.
Daniel, John N.	Hunt, Chas. A.
Daniel, Roy P.	Jewell, Jessamine
Dempf, Emma	Johnston, Leonora
Denham, W. E.	Johnston, Robert L.
Dietz, Martha.	Jones, Mary Ellis
Dorsey, Adele	Jones, Janet
Duenweg, Rudolph	Kahn, Mary Campbell
Eager, Louise D.	Kelly, Agnes

King, Gladys	Pearcy, H. R.
Kienzle, Katherine	Perry, Rose
Klein, Katherine J.	Pierle, Nettie B.
Knoob, Earl T.	Pfingst, Katherine
Knox, Brevard	Polk, Annie E.
Knox, M. H.	Polk, Maude C.
Kornfield, Edwin C.	Priest, Roy E.
Kornfield, Katherine	Pritchett, Norton G.
Krakauer, Beatrice	Robinson, Lorena
Lampton, Clark S.	Robertson, Addis
Lang, Gertha E.	Rodgers, Clarence
Lindsay, Jos.	Rogers, Vernie C.
Lindsay, Jessie	Ryan, Anna C.
Lockwood, Dyer J.	Rosenfelder, Aimee Helen
Logan, Lillian B.	Saunders, Myra
Longenecker, J. Hershey	Schenk, R. E.
Lotspeich, Glenn	Schmidt, Margaret
Maratta, Carolyn	Seeley, Marguerite
Marmor, Emma J.	Selmeier, Anita M.
Mason, Iva T.	Shelley, Mary S.
Macauley, Mrs.	Siebenthal, Fred von
Miles, Jacob Earl	Sigler, Catherine
Milner, Jean S.	Snodgrass, Bettie B.
Mitchell, Eugene	Snyder, Martha C.
Mitchell, J. Houston	Speaker, Lewis P.
Moore, William Everett	Stein, Pauline K.
Morat, Catherine L.	Stephens, Edith
Mossbarger, Mary	Strohman, Catherine
Mossbarger, Ruth	Swindler, J. Earl
Moses, Beatrice S.	Thro, Arthur
Mundy, Jessie	Vance, Sarah Huntoon
Murphy, Cornelia Clay	Walker, Robert Ward
McCaleb, Lois	Walker, Stanley Ward
McCaleb, J. Harding	Warder, Evelyn N.
McCallum, Florence Daisy	Weygold, Frieda
McCallum, Margaret	Wigginton, Wilna
McDonald, Emily Condit	Will, Joe
McMurray, Geo. Jefferson	Wimp, Charlotte
Neat, Addis C.	Woodside, Tom
Newell, Charles	Woodson, Belle
Offutt, Marie Lillian	Wulf, W. A.
Owens, Ollie B.	Yeager, Christine
Partridge, C. G.	Zachert, R. E.

Special Students

Anderson, Harriet E	Larson, J. V.
Best, Harry P.	Leigh, J. F.
Bowman, D. H.	Lloyd, A. L.
Boyd, William G.	Mann, Margaret
Breecker, Irene	Mayer, Frances Bayley
Cahill, Alice	Montz, Marie E.
Carter, Allen, Mrs.	Morgan, Osborn L.
Coady, Mary K.	Muth, H. Milton
Cooper, David L.	McDowell, M. S.
Crawford, Mrs. Robert J.	McFarland, Monta M.
Crogham, Ella T.	McMartin, F. D.
Cromie, Charlotte F.	Priest, Mary L.
Daugherty, R. E.	Raidt, Geo. C.
Easterbrook, G. H.	Rassinier, Edgar A.
Ecker, Leo	Redman, Herbert E.
Elrod, Fannie Brewer	Rose, Sister
Erhart, Herrman	Sanders, J. Frisbie
Ferguson, James	Scoggan, Vernetta W.
Finney, Jessie	Shapinski, Augusta
Gathoff, T. W.	Spindle, Olive M.
Hanks, Ada M.	Stinson, C. J.
Hene, Bert B.	Vine, F. R.
Hoptonstall, Elizabeth	Walton, Marion
Jarvis, Edward W.	Winchester, Helen K.
Jonnebeck, Milton H. V.	Wilson, Nancy R.
King, Robert	Wolpert, Arthur
Krieger, May	

Students Enrolled in Music Department

Abraham, Louise	Longenecker, J. H.
Brinke, Hermine	Lutz, Fred L.
Bailey, Anne	McDaniel, Katherine
Cooper, David L.	McDaniel, L. C.
Dosker, Gertrude Elizabeth	McGann, E. C.
Downing, Amelia Kendrick	Mitchell, Dr. Noble F.
Elliott, Winnifrede F.	Mitchell, Ruth
Ewald, Louis Philip	Ritter, Mable
Gosnell, Rua Alma	Ross, Capitola
Gratz, Saide S.	Rucker, Henrietta
Gough, Elviere	Sigler, Catherine
Hankins, Annabelle	Schoeffel, Eva May
Harrington, Ruth	Selmeier, Anita
Harmon, Hattie Wooten	Sloane, Mathilda
Harmon, W. F.	Taylor, Mrs. T. B.
Hoagland, Mrs.	Terry, Ruth Eagleton
Huber, Grace	Thixton, Effie
Hudson, Mrs.	Thompson, E. K.
Jorgenson, Elmer Leon	Turner, Celeste Godfrey
Jones, Mary Ellis	Ethrig, Charles E.
Johnston, Robert Leland	Van Dyke, F. J.
Johnston, Leonore	Wedekind, Julia
Knox, Bravard	Weinmann, Gustane E.
Lampton, Clark S.	Willett, Minnie C.
Lindsey, Rev. E. A.	Wells, Evelyn N.

Total Music Students	50
Total Academic Students	249
	<hr/>
	299
Less names counted twice	20
	<hr/>
Sum total	279
	<hr/>

Alumni

College of Arts and Sciences



1907—1908

BACHELORS.

Baird, Louise.	Cone, Vera.	Ward, Helen Shippen.
Brigman, B. M.	Poulson, Edward T.	Werness, Inga.
Catlin, Olive	Simpson, Virgil.	Witherspoon, Florence
Chamberlin, Kate.	Slifer, A. C.	P.

MASTERS.

Campbell, Marion.	Hill, Lewis.	Kennedy, Grace A
Frazee, Geo. B.	Hill, Ralph.	Thwing, F. F.
Green, Alice L.		

1908—1909

BACHELORS.

Gross, Fannie S.	Knighton, Hadley B.	Scott, Mattie Belle.
Johnston, Elizabeth.	McConathy, Elizabeth	Voegtle, Anna.
Rhodes.	Phillips.	

MASTERS.

Catlin, Olive B.	Ward, Helen S.	Werness, Inga.
Poulson, Edw. T.		

1909—1910

BACHELORS.

Buchanan, Elizabeth	McDonald, Charles	Van Arsdale, Mary
Mildred.	Howard.	Elizabeth.
Callaway, Eleanor H.	Murphy, Ethel Allen.	Yunker, Emilie.
Wickliffe.	Taylor, Josephine	
Logan, Anna Lillian.	Newman.	

MASTERS.

Frost, Minnie Carfield.	Knighton, Hadley
	Blanch.

1910—1911

BACHELORS.

Hodges, Helen McClure	Moses, Elsie Nina.	Thornberry, J. E.
Hedden, Daisy.	Smith, Mary Pressley.	Winkler, Gertrude M.
King, Julia C.	Spillman, Ora Dell.	Winkler, Margaret L.
Miller, Lois M.		

MASTERS.

Murphy, Ethel Allen.	Yunker, Emilie.
----------------------	-----------------

1911—1912

BACHELORS.

Daniel, Gilbert J.	Heft, Hattie L.	Jenks, Clarence E.
Dustin, Andrew P.	Heinz, Adeline.	Terry, Ruth Eagleton.
Heffernan, Viola Marie.		Shelley, Mary Louise.

MASTERS.

Brigman, Bennett	Lenz, Henry William.	Smith, Mary Pressley.
Mattingly.	McGregor, Harold	
Lee, Alexander Y.	Hossack.	

1912—1913

BACHELORS.

Bottomley, Mary A.	Rogers, Ralph W.	Thompson, Eleanor K.
Caldwell, C. N.	Stark, Edith M.	Warren, Christine.
Marshall, Sally Ewing.		White, James A.

MASTERS.

Heft, Hattie L.	McConathy, Elizabeth Phillips.
-----------------	-----------------------------------

Graduating Class

College of Arts and Sciences

1913—1914.

BACHELORS.

Baude, Edith M.	Hendry, Edna Bond.	McCaleb, Lois A.
Caldwell, Edward N.	Herr, Susie M.	Mundy, Jessie Childs.
Eager, Louise Downer.	Hoskins, Elizabeth.	Pierle, Nettie Bell.
Eschrich, J. L.	Huber, Grace B.	Rogers, Vernie C.
Fairleigh, Florence	Johnston, Leonora.	Sigler, Catherine
Allan.	Johnston, Robert	Wilson.
Gough, Florence	Jones, Janet Gray.	Stein, Pauline.
Elviere,	Kornfeld, Katherine	Ryan, Anna C.
Hale, Floyd A. W.	W.	Walker, Stanley.
Harrington, Ruth A.	Weygold, Frieda.	

MASTERS.

Mueller, J. Howard.	Scott, Mattie B.	White, James A.
---------------------	------------------	-----------------



3 0112 105815861